AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): An ultra wideband (UWB) transceiver, comprising:

a receiver configured to calculate channel information from a UWB pulse signal received over a UWB channel so that a UWB channel condition can be predicted and a data transmission scheme is changed according to the calculated channel information, whereby information transmission can be efficiently made according to the UWB channel condition.

2. (original): The UWB transceiver as claimed in claim 1, wherein at least one of a channel coding rate, modulation order and transmission power is selectively changed according to the data transmission scheme.

3. (original): The UWB transceiver as claimed in claim 2, wherein the channel coding rate is a ratio of the number of information bits to that of the total bits including the information bits and redundant bits that are added for reliable data transmission during coding through a channel encoder.

4. (currently amended): The UWB transceiver as claimed in claim 2, wherein the modulation order is an order associated with a modulation scheme~~, such as~~ of at least one of 4-PSK, 8-PSK and 16-PSK schemes, by which the data are modulated in a modulator.

5. (original): The UWB transceiver as claimed in claim 1, wherein the channel information is a signal-to-noise ratio (SNR) calculated from the received UWB pulse signal.

6. (original): The UWB transceiver as claimed in claim 1, wherein the UWB transceiver further comprises:

a transmitter including a processing means for modulating predetermined information into a UWB pulse signal and transmitting the modulated signal over the UWB channel by using a data transmission scheme determined according to the channel information; and

a baseband controller connected to the transmitter and the receiver, respectively, for generating a timing control signal for synchronization between the transmitter and receiver and extracting the channel information from the receiver and forwarding the channel information to the transmitter;

wherein the receiver includes a processing means for receiving the UWB pulse signal over the UWB channel and calculating the channel information capable of predicting the UWB channel condition, thereby obtaining original binary information.

7. (original): The UWB transceiver as claimed in claim 6, wherein the transmitter comprises:

a channel encoder for performing channel coding for the information to be transmitted at a predetermined channel coding rate to be suitable for transmission over the UWB channel;

a modulator for modulating the information coded by the channel encoder into the UWB pulse signal in an analog format with a predetermined modulation order; and

an amplifier for adjusting transmission power of the UWB pulse signal output from the modulator to be suitable for the UWB channel transmission.

8. (original): The UWB transceiver as claimed in claim 6, wherein the receiver comprises:

a correlation detector for calculating the channel information from the UWB pulse signal received over the UWB channel; and

a decoder for decoding a data sequence of the UWB pulse signal into an original signal.

9. (currently amended): The UWB transceiver as claimed in claim 6, wherein the baseband controller comprises:

a channel information processor for extracting the channel information calculated by the receiver and forwarding the channel information to the transmitter; and

a timing controller for generating [[a]]the timing control signal for synchronization between the transmitter and receiver and transmitting the timing control signal to a timing synchronizer.

10. (original): The UWB transceiver as claimed in claim 9, wherein the baseband controller further comprises a power controller for generating another control signal according to the channel information extracted by the channel information processor and controlling transmission power of the UWB pulse signal.

11. (original): A UWB signal transmitting/receiving method, comprising the steps of:

receiving a UWB pulse signal through a UWB channel;

analyzing the received UWB pulse signal and providing channel information with which a state of the UWB channel can be predicted; and

determining a transmission scheme of information relative to information to be transmitted according to the channel information.

12. (original): The method as claimed in claim 11, wherein at least one of a channel coding rate, modulation order and transmission power is selectively changed according to the information transmission scheme.

13. (original): The method as claimed in claim 12, wherein the channel coding rate is a ratio of the number of information bits to that of the total bits including the information bits

and redundant bits that are added for reliable data transmission during coding through a channel encoder.

14. (original): The method as claimed in claim 12, wherein the modulation order is an order associated with a modulation scheme, such as 4-PSK, 8-PSK and 16-PSK schemes, by which the data are modulated in a modulator.

15. (original): The method as claimed in claim 11, wherein the channel information is a signal-to-noise ratio (SNR) calculated from the received UWB pulse signal.

16. (original): The method as claimed in claim 11, wherein the information transmission scheme performs channel coding for information at a lowest channel coding rate and determines modulation thereof with a lowest modulation order if the information to be transmitted comprises an initial transmission signal.

17. (original): The method as claimed in claim 11, wherein the channel information is provided by a correlation detector provided in a receiver.